Response to Comments
1 May 2007 Public Notice:
Proposed Addendum to New England District Compensatory Mitigation Guidance: Compensation for Impacted Aquatic Resource Functions

Twenty-five commenters responded to the 1 May 2007 draft version of the proposed Addendum to New England District Compensatory Mitigation Guidance (including proposed standard ratios). Below are the comments on the public notice and the Corps' responses (in *italics*) to these comments.

1. Many comments indicated that the commenters were confused on the meaning of terms used in the proposed Addendum, including "restoration," "upland restoration," "stream restoration," etc.

Most of these terms are defined or clarified in the guidance.

2. There were several recommendations for language changes in specific portions of the proposed Addendum.

Many of these have been accepted, as appropriate.

3. Four commenters were concerned that the proposed guidance would unfairly hold Maine and northern New England to a significantly higher standard and mitigation requirements than any other region of the country. Three of these commenters recommended that New England establish compensatory mitigation ratios consistent with those at other Corps districts or have nationwide compensatory mitigation ratios established.

Many Corps districts have standard ratios and many do not. Of those with ratios, New England District's are not the highest. Each district develops mitigation guidance, including ratios, equations, etc. appropriate to their aquatic resources in order to achieve no overall net loss of wetland functions. There are currently no plans for the Corps to develop nationwide compensatory mitigation ratios.

4. One commenter felt that since Maine had more wetlands than the rest of New England, a disproportionate burden for amounts of wetland compensation would be required.

Compensation is required for impacts to wetlands wherever they occur and when the Corps deems mitigation is appropriate.

5. One commenter noted that their state and local governments had been working hard to "meet the existing district development ratios of 10:1 and rehabilitation ratios of 5:1."

New England District does not currently have standard compensation ratios, only general minimums. The commenter's terminology is unclear.

6. One commenter stated strong support for the goal of the proposal to "provide clearer, quantitative criteria" for Corps-required compensatory mitigation.

No response.

7. Two commenters believed that any differences in state and federal compensatory mitigation requirements should be resolved by the Corps "clearly deferring to existing state rules." One of these commenters feared that implementation of the proposed Corps ratios would render state compensatory mitigation rules irrelevant and strongly objected to this outcome.

Each state program is different from others and from the federal Clean Water Act. Compensatory mitigation should be developed by each program to meet its needs. If state-required compensation does not adequately provide for impacts to federally-protected resources, additional compensation would be necessary. The opposite is also true if federally-required compensation does not adequately compensate for impacts to state-protected resources.

8. One commenter wanted clearly defined criteria and guidance on when the Corps ratios would apply and what constituted legitimate deviation, up or down.

The ratios are intended to serve as starting points for all Corps-required mitigation, in particular that for individual permits. To maintain flexibility, there are general guidelines for when and how the ratios may be altered, however, this is not proscribed. Some of the factors used to determine project-specific mitigation requirements have been added.

9. One commenter recommended that preservation credit only apply to upland buffer since wetlands were generally undevelopable and two commenters recommended the ratios for this preservation be aligned to New Hampshire's standards.

Nationally, the Corps emphasizes that preservation should be for aquatic resources. Since state and local protections reduce impacts to wetlands in New England, preservation of wetland-upland mosaics and upland buffer is often preferred to straight preservation of wetlands. However, wetlands are still impacted throughout New England and preservation of wetlands continues to remain a valid compensation option as appropriate. Each state program is different from others and from the federal Clean Water Act. Compensatory mitigation should be developed by each program to meet its needs. If state-required compensation does not adequately provide for impacts to federally-

protected resources, additional compensation would be necessary. The opposite is also true, if federally-required compensation does not adequately compensate for impacts to state-protected resources.

10. One commenter disagreed with reducing the proposed mitigation ratio for preservation of wetland from 20:1 to 15:1 for fear that it would increase the chances of mitigation proposals including only preservation, which would be cheaper than restoration.

The recommended mitigation ratio for preservation of wetland is currently 15:1 to be consistent with the recommended preservation ratio for upland buffer.

11. Two commenters wanted preservation ratios of no more than 10:1.

Preservation does not provide for any replacement of impacted functions and only prevents future impacts to wetland functions. As such, the compensation ratio for preservation is necessarily much higher than for forms of compensation which increase wetland functions.

12. One commenter noted that the proposed ratios conflicted with those established by the state of Maine.

Each state program is different from the others and from the federal Clean Water Act. Compensatory mitigation should be developed by each program to meet its needs. If state-required compensation does not adequately provide for impacts to federally-protected resources, additional compensation would be necessary. The opposite is also true, if federally-required compensation does not adequately compensate for impacts to state-protected resources.

13. One commenter requested that the Corps expand its discussion of how preservation and buffer lands would be controlled. In particular, they were interested in transfers to conservation organizations, what to do with small parcels that may not be eligible for such transfer, and a preferred hierarchy of organizations or methods for control.

Much of this is project-specific, but generally speaking, conservation easements held by an appropriate third party are strongly preferred over deed restrictions.

14. One commenter asked if the statement that preservation of on-site wetlands and upland buffer within subdivisions would count as avoidance rather than compensation would also apply to transportation projects.

This statement has been removed from this addendum.

15. Two commenters supported the use of "upland restoration" as a mitigation option, but felt that it should not be restricted to removal of pavement or structure. Another commenter seemed to confuse "upland restoration" with "upland enhancement."

It appears that these commenters did not clearly understand this concept – "upland restoration" means putting upland back where it once occurred. This can only happen where upland has been turned into wetlands or waters (not

generally preferred for returning to uplands as compensation for aquatic impacts) or the natural upland system has been covered with impervious surface. Simply planting a bare, but otherwise undisturbed upland would be enhancement, not restoration.

16. One commenter noted that the proposal should improve compensatory mitigation efforts in New England. They stated that the inclusion of minimum standards for different wetland types should make application of the ratios work reasonably well for most projects. They also noted that the numbers in the table seemed fair for the majority of the wetland projects they reviewed.

No response.

17. One commenter liked the focus on restoring and preserving ecological functions and values and the use of landscape ecology concepts. They supported the development of compensatory mitigation sites with the ability to maintain long-term ecological integrity.

No response.

18. One commenter supported the option of preservation where good restoration or creation options were not available and that protecting upland added value over preserving only existing wetlands. They also agreed that all restoration and creation sites should have upland buffers to promote long-term protection.

No response.

19. One commenter supported a greater emphasis on watershed and landscape approaches, in accordance with the draft compensatory mitigation rule.

It is New England District's intention to do this, as watershed information and resources allow.

20. Two commenters were concerned with the potential increase in costs associated with development.

Increased <u>project</u> costs are likely to occur; however, there are costs to the net loss of wetland functions and services and those are currently being borne by the adjacent property owners and/or public. No net increases in societal costs are expected.

21. One commenter felt that the application of ratios in Table 1 was unclear: did it apply to direct and secondary impacts? Permanent and temporary impacts?

The main thrust of the ratios is intended for direct and permanent impacts; however, other project-specific impacts may have compensation requirements

22. One commenter noted that since the cited 2001 National Academy of Sciences' National Research Council's (NAS-NRC) published findings noted that functional equivalency of completed mitigation was 21%, the threshold for mitigation ratios should start at 5:1.

Many factors, including the NAS-NRC study, were incorporated into the draft ratios.

23. One commenter asked whether a replacement ratio of 1:1 for emergent and scrub-shrub impacts had been demonstrated to provide inadequate replacement of functions and values.

New England District's 2003 mitigation study found an average of 17% functional replacement for the 60 mitigation sites examined.

24. One commenter noted that the phrase "standard ratios" seemed to contradict the intended spirit of flexibility and suggested that "recommended ratios" be used.

This has been changed in the addendum.

25. One commenter noted the absence in Table 1 of other aquatic resources that would need compensatory mitigation such as vernal pools and riffle and pool complexes. Two other commenters noted the need for specific vernal pool compensation guidance.

Compensation for impacts to vernal pool resources are presently evaluated on a project-specific basis. As we further evaluate the literature for these types of systems, we may develop general compensation guidelines for them.

26. One commenter felt that linear feet was an inappropriate and ecologically unsound unit of measure for compensatory mitigation. Linear feet might be appropriate for stream bank impacts, but stream impacts should also incorporate streambed and channel considerations.

We agree that streams are complex systems, and we are planning to develop more detailed stream compensation guidance in the future to further refine Corps policy for compensation for stream impacts. Until such additional guidance is developed, the guidance of the Addendum will represent a starting point for our analysis.

27. One commenter noted that streams are complex systems of varied types and habitat conditions and that as wetlands are recognized and treated as distinct types, so, too, should streams. They recommended the Unified Stream Methodology for use in Virginia (US Army Corps of Engineers, Norfolk District and Virginia Department of Environmental Quality) as an appropriate guide for developing stream mitigation.

We agree that streams are complex systems, and we are planning to develop more detailed stream compensation guidance in the future to further refine Corps policy for compensation for stream impacts. Until such additional guidance is

developed, the guidance of the Addendum will represent a starting point for our analysis.

28. One commenter noted that since often only one side of a stream requires structural restoration, the credit for linear feet or stream enhancement should be reconsidered.

This is flexible on a project-specific basis. In addition, future stream-specific mitigation guidance may address this in more detail.

29. One commenter felt that required fish enhancements should rely on the expertise of state biologists, rather than a set ratio.

This is flexible on a project-specific basis. The Corps reviews technical recommendations of state fisheries biologists, along with those of the U.S. Fish and Wildlife Service and National Marine Fisheries Service.

30. One commenter noted that the guidance should state that its requirements may not be compatible with or satisfy state wetland and Section 401 program requirements and that additional mitigation may be required as determined by the state.

The guidance will note that federal and state compensation requirements may vary.

31. One commenter noted that with ongoing impacts to forested wetlands, preservation of forested wetlands as compensatory mitigation for such impacts is more appropriate than preservation of mostly uplands.

Preservation of wetlands and preservation of upland buffers to aquatic resources will now have equal weight.

32. One commenter believed that favoring upland preservation over wetland preservation was inappropriate and that preserving wetlands and uplands at the same ratio was more ecologically beneficial.

Preservation of wetlands and preservation of upland buffers to aquatic resources will now have equal weight.

33. One commenter could not understand how the Corps could encourage upland preservation that protects aquatic resource functions over straight wetlands preservation, since uplands are not a protected resource.

Protection of the resource only relates to regulation of impacts. Compensatory mitigation can take many forms and has done so at least since 1990's Memorandum of Understanding on mitigation between the Corps of Engineers and the Environmental Protection Agency.

34. Several commenters supported the flexibility on a project-specific basis.

No response.

35. One commenter felt the ratio table was good and generally fair for most wetland loss.

No response.

36. One commenter voiced support for the order of preference for mitigation and felt that it made sense.

No response.

37. One commenter felt that upland preservation and restoration should only count as compensation where there was a demonstrable benefit to the aquatic environment. They felt that preservation of this feature should be generally viewed as part of the avoidance/minimization process.

It is intended that compensation credit for such features will be where it will enhance the aquatic environment.

38. Two commenters were concerned with use of the word "upland" on the left side of Table 1, feeling that it was confusing and some might mistakenly think we were recommending mitigation for upland impacts.

This has been clarified in Footnote 3 which notes that this is only meant for preservation of uplands as a component of compensatory mitigation for impacts to wetland functions.

39. One commenter noted that good restoration sites are often difficult to find and emphasized that preservation often makes practical sense where impacts are largely secondary and impacts are taking place in areas that have a "high percentage (perhaps over 25%)" of existing wetlands.

No response.

40. One commenter noted that more guidance from the draft Mitigation Rule should be incorporated into New England's guidance, particularly emphasizing long-term functions and values, concepts of landscape ecology, and the watershed approach.

The final Mitigation Rule, if following the current schedule, will be issued in 2008. Some of these concepts are included in our guidance, but we did not wish to reiterate all elements as the Rule has not yet been finalized.

41. One commenter was concerned that the guidance was not strong enough on discouraging small, on-site compensation efforts for biodiversity functions.

Such sites are noted as often being inadequate for compensating biodiversity functions, such as wildlife habitat. As of October 2007, two states in New England have developed In-Lieu Fee programs which are being reviewed for use by the Corps of Engineers, particularly for general permits, when appropriate.

42. One commenter asked if there was a threshold at which the proposed ratios would apply. Another commenter questioned whether these ratios

would apply to projects authorized under the NHSPGP with impacts under three acres where the Corps has traditionally not required mitigation, allowing the state to take the lead.

These ratios provide guidance for all compensatory aquatic resource mitigation required by New England District. They are particularly designed for direct permanent impacts resulting from individual permits, but may be used for indirect (secondary) impacts and general permits, as well.

43. Two commenters were concerned that the recommended ratios would cause mitigation to be required where it had not been before, or for general permits.

The recommended ratios are for use with all Corps-required compensatory mitigation. The ratios alone do not have any effect on determining when compensation is required.

44. One commenter stated that "Federal environmental regulation does not require mitigation for secondary impacts" and was concerned that such impacts would later be mitigated a second time when they were permitted.

The Corps regulations at 33 CFR 320.4(r)(1)(ii) state in part that "[f]or Section 404 applications, mitigation shall be required to ensure that the project complies with the 404(b)(1) Guidelines," which require the Corps to evaluate all primary and secondary impacts of a project on the aquatic environment (40 CFR 230.11(h)). For determining mitigation compliance with the 404(b)(1) Guidelines, the 1990 "Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation under the Clean Water Act Section 404(b)(1) Guidelines" (Mitigation MOA) is used. The Mitigation MOA in turn notes that "[a]ppropriate and practicable compensatory mitigation is required for unavoidable adverse impacts which remain after all appropriate and practicable minimization has been required."

In addition to the Clean Water Act, the Corps must comply with the National Environmental Policy Act (NEPA), which requires the Corps to evaluate all direct and indirect effects of a project on the environment (40 CFR 1508.8). NEPA equates effects and impacts, and also notes compensatory mitigation as compensating for impacts by replacing or providing substitute resources or environments.

The indirect (secondary) impacts to which the addendum refers are those that result directly from the placement of fill, but are not filled themselves (e.g., flooding resulting from dam construction).

45. One commenter believed that the proposed ratios for preservation were set unreasonably high to discourage this form of mitigation, noting that it had previously been preferred in many cases.

Preservation ratios are considerably higher than for other forms of compensation because they result in neither a net gain in function nor a net gain in acreage.

46. One commenter was opposed to reducing the originally proposed ratio for wetland preservation of 20:1 to 15:1 in the revised proposal, fearing in part that applicants would avoid good restoration opportunities in favor of cheaper preservation options.

This is a valid concern; however, 15:1 was chosen to be consistent with upland preservation ratios. This recognizes the importance that preservation of wetlands, and prevention of future wetland impacts, can play in mitigation.

47. Two commenters felt that the enhancement ratios were too high given the high likelihood of success.

Enhancement returns some wetland functions to an existing wetland that is already performing some wetland functions. As such, typically, a considerably larger area of enhancement is needed to replace the impacted functions.

48. One commenter was concerned with the statement that "mitigation ratios may also increase when dealing with impaired waters," feeling rather that they should be at a lower ratio to encourage the performance of mitigation in such waters.

The intention of compensation at a higher rate in impaired waters was to help increase the functional capacity of such waters, especially with authorization of additional impacts to these systems.

49. One commenter noted that the ratios appeared to be arbitrary because no justification based on existing study data was presented. Another commenter requested citation of additional studies.

A scientific basis for generation of the ratios was developed but not included in the public notice in the interest of conserving space. That scientific basis will be available on our website along with this response to comments.

50. One commenter stated that recognition of an applicant's history of success should be used on a case-by-case basis to lower ratios.

This has been noted in the final version of the guidance; however, likely success of a proposal is only one factor in determining adequate compensatory mitigation. Suitable types and amounts are necessary for functional replacement.

51. One commenter noted that there should be a distinction for impacts to low quality wetlands and a lower ratio required for their compensation.

This is included in the guidance.

52. One commenter questioned the placement of creation as second in the order of mitigation preferences, stating that the costs and risks of creation should give it a lower preference.

These are valid concerns with creation; however, when done properly, creation yields a net gain in wetland function and, unlike enhancement and preservation,

a net gain in wetland acreage. For this reason, creation is higher in the order of preference.

53. One commenter was concerned that the move away from use of preservation may yield more, small, disconnected restoration and creation sites which have limited practicability and/or environmental benefit for the watershed.

This has certainly been a problem, but it is intended that this guidance will discourage these types of mitigation sites as they do not provide adequate functional replacement.

54. Six commenters were concerned that a 200-foot buffer around the mitigation sites would excessively increase the size and amount of the mitigation and there was still concern expressed when the buffer was proposed to be reduced to 100 feet.

This buffer is now suggested at 100 feet and, although an important part of long-term sustainability for mitigation sites, it is recognized that this amount of buffer may not be possible in all instances or around all portions of some sites.

55. One commenter recommended that not all preservation be treated equally and that "high value wetland areas or wetland areas under the greatest threat of development should receive credit at a lower ratio," recommending a minimum ratio of 8:1 to be consistent with state (Maine) standards.

The suitability and amount of a particular mitigation option is dependent upon the resource being impacted, so this may not be appropriate in many cases.

56. One commenter felt that the Corps currently had the ability to require mitigation ratios of the magnitude proposed when conditions warrant and feared that adopting the proposed guidelines would lead to less flexibility as they became more rigidly applied. Two other commenters also felt that guidelines would soon lose their flexibility.

The mitigation ratios are intended to provide a starting point for developing appropriate compensation, which still will be reviewed on a project-specific basis to compensate for impacted functions.

57. One commenter felt that use of vegetative cover type was an overly simplistic and inappropriate basis for mitigation ratios as this largely related to habitat considerations for a specific component of the wildlife community. They noted the highly variable systems that would be lumped under "emergent wetlands" and suggested that soil type or hydrogeologic [hydrogeomorphic?] setting would be more appropriate bases for mitigation ratios.

It is important to consider the hydrogeomorphic (HGM) classification of wetlands as this has considerable impact on their functions. However, the HGM

classification system has not been fully developed for New England and a mitigation program based on it is not tenable at this time.

58. One commenter noted that the guidance has the appearance of emphasizing specific habitat considerations rather than consider the full range of wetland functions.

The guidance emphasizes the construction of compensatory mitigation which is structurally similar to the system that was impacted in an effort to mimic the impacted functions. Although this is ecologically simplistic, the level of research required to develop compensatory mitigation on a more complex level would make it impracticable.

59. One commenter questioned the presumption that in-kind replacement of wetland vegetative type is the best strategy to replicate the impacted wetland functions and values. Another commenter noted that basing the mitigation ratios on types of vegetation deviated from the fundamental concept of replacing impacted functions and values.

Many wetlands functions are dependent upon species composition of the macroflora and the soil flora and fauna. The guidance emphasizes the construction of compensatory mitigation which is structurally similar to the system that was impacted in an effort to mimic the impacted functions. Although this is ecologically simplistic, the level of research required to develop compensatory mitigation on a more complex level would make it impracticable. (See scientific basis for these mitigation guidelines on our website for more information on the appropriateness of in-kind mitigation).

60. One commenter had trouble understanding how different forms of mitigation, each at different ratios, could be combined and evaluated for a single project.

Example calculations will be posted on our website to help clarify this.

61. One commenter noted that, while there is justification for requiring mitigation at greater than 1:1, ratios of 3:1 or greater did not appear to be supported by scientific literature. Another commenter asked if there was clear documentation in the database that 3:1 or greater ratios were justified.

Many studies of mitigation success, including those done by the National Academy of Sciences' National Research Council and New England District, have found functional replacement of mitigation projects at 20% and less. Additional studies have shown that even mitigation sites which are deemed "successful," are not adequate at replacing impacted functions. (See scientific basis for these mitigation guidelines on our website.)

62. One commenter stated that for "a variety of logistical, economic, and constructability reasons, wetland replacement areas should be adjacent to highways – in close proximity to the existing layout and right-of-way." As

such, they stated that providing significant buffers for linear highway projects would be impractical.

These locations, subject to a high level of degradation and lacking long-term sustainability, are inappropriate for compensatory mitigation for some functions as noted in the draft Mitigation Rule, Regulatory Guidance Letter 02-02 (and appendices), and other national guidance.

63. One commenter was concerned that the New England District's proposal would be in conflict with the proposed national Mitigation Rule.

New England District developed this addendum after having reviewed the proposed Mitigation Rule and other national mitigation guidance. It has also been reviewed by HQUSACE. When the national Mitigation Rule is released, the District will update any regional guidance as necessary, as we have with the issuance of various Regulatory Guidance Letters.

64. One commenter noted that the buffer requirements would conflict with Massachusetts Wetlands Protection regulations, which require replacement wetlands be located in close proximity to the impacts, not a buffer width away. Another commenter was concerned that the increased ratios in Massachusetts would result in greater impacts to wetland buffer due to state requirements for onsite replication.

National mitigation guidance notes that placing compensatory mitigation immediately adjacent to the impact area generally results in degraded mitigation sites, lacking an appropriate suite of functions and long-term sustainability. The Corps has been discouraged from requiring such mitigation sites.

65. One commenter noted that discouraging use of valuable upland forest for wetland creation was not mentioned in the proposed Addendum.

Such statements are already included in national Corps guidance.

66. Two commenters felt it was inappropriate to be forced to mitigate on active farmland, grasslands, or early successional habitat rather than forested uplands, which are non-regulated and plentiful.

National Corps guidance, including recommendations from the National Academy of Sciences' National Research Council, has long recommended against the use of ecologically high quality systems for wetland mitigation. The 404(b)(1) Guidelines proscribe alternatives that would be more environmentally-damaging, such as impacts to high quality uplands. The individual merits of any mitigation site must be viewed in the context of net functional replacement and that includes looking at what functions may be impacted by the mitigation work. As such, degraded sites are recommended for use in compensatory mitigation. However, if there are watershed considerations which indicate a need to avoid certain types of uplands, there is flexibility to do so.

67. One commenter was concerned that the higher ratio for forested wetland impacts would drive impacts toward emergent wetlands, some of which might be of greater value than the forested wetlands.

Evaluation of project impacts and alternatives is usually done independently of mitigation considerations.

68. One commenter objected to the entire proposed Addendum as being too prescriptive and nearly impossible to achieve for most transportation agencies in New England.

Much of the Addendum is designed to be flexible and responsive to specific project concerns. State highway departments in other parts of the country have adapted to specific Corps district requirements, including mitigation ratios, as they have been developed. It is believed that New England states are no less capable.

69. One commenter was concerned that mitigation for small impacts to degraded wetlands along a roadway would require greater compensation than necessary to replace the impacted functions.

The goal of compensatory mitigation is to replace the impacted functions, so that should drive the development of suitable mitigation.

70. One commenter requested that projects which are already in final design be "grandfathered" from having to meet new mitigation requirements. Another commenter wanted the same "grandfathering" for projects which had local and state approvals of their mitigation.

Projects where the Corps has already accepted the proposed mitigation in writing will not be required to comply with this guidance. However, each local and state program is different from the others and from the federal Clean Water Act. Compensatory mitigation should be developed by each program to meet its needs. If local or state-required compensation does not adequately provide for impacts to federally-protected resources, additional compensation would be necessary. The opposite is also true, if federally-required compensation does not adequately compensate for impacts to local or state-protected resources.

71. One commenter stated that public works projects, due to their perceived public benefits, should not be required to meet the same standards as private, for-profit business.

Project-specific flexibility continues to be used for all project reviews. It is also important that public projects be held to the same standards as private projects.

72. Two commenters noted that the guidance did not address in-lieu fee programs. One of these commenters felt that in-lieu fee programs should be required to have higher ratios than those used for other forms of compensation.

In-lieu fee programs have not existed in New England. Only now are programs in New Hampshire and Maine are being developed. Until these programs are

fully developed and their operation can be observed, we have no specific guidance beyond what these states are developing for their programs.

73. One commenter supported the Corps' efforts to implement written guidance as they felt that consistency and efficiency were currently lacking from the process, but felt that the current proposal included too much flexibility to achieve this.

The goal of the guidance is to provide a general framework to start from and then allow for project-specific flexibility, not to require across-the-board standards for all projects.

74. One commenter supported the Corps' efforts of the previous three years to move away from poor restoration and creation projects toward more meaningful preservation projects in northern New England.

Although this approach makes sense for some projects in areas where few good restoration or creation options are available, it does not address loss of wetland functions and acreage.

75. One commenter felt that if the Corps intended to require compensation for indirect and secondary impacts, these types of impacts should be clearly defined so that they can be consistently quantified.

These terms are identified in the 404(b)(1) Guidelines (40 CFR 230.11(h) and the National Environmental Policy Act (40 CFR 1508.8). Many of these will be project-specific, but examples for clarification are included.

76. One commenter was concerned with the proposed ratios based on in-kind compensation and recommended that the ratio table be based on wetland functions/type being impacted and then the type of compensation (e.g., restoration, creation) to be implemented. They recommended a format similar to that used by EPA, the Corps, and the State of Washington, believing this approach to be ecologically justifiable, more transparent and consistent, and easier to implement.

The ratio table is based on wetland type being impacted. New England District's functions and values assessment methodology (the "Highway Methodology") is used to identify impacted functions as well as proposed compensatory functions; however, it does not have a quantitative method for assessing levels of functioning. Several methods of determining appropriate compensatory mitigation were reviewed prior to developing this addendum. The Washington state method was examined, but their ratios are based in part on wetland assessment and ratings methods specifically designed for wetlands in the Pacific Northwest. This type of method may be developed for New England in the future, but presently, we do not have a wetlands rating system proven effective for New England that could be used.

77. Two commenters felt the term "highly variable" in the proposed ratio table was not helpful and added unnecessary uncertainty.

This has been changed to "project specific," as this highlights the allowance for project-specific flexibility, particularly in these highly variable categories.

78. Two commenters believed that wet meadow systems were not identified in the table and should have ratios established separate from other emergent systems.

Wet meadows are included with all other emergent systems.

79. One commenter felt that preservation only should remain an option where it would be beneficial and other forms of ecologically valuable compensation were not available.

Although this option is generally discouraged, as it has been in all national mitigation guidance, it remains a mitigation option.

80. One commenter wanted the proposed Addendum to provide clear guidance on the limits for mitigation site search to support preservation only mitigation.

This is very project-specific and depends on factors such as impacted wetland types and functions, watershed concerns, landscape features, and mitigation options. Such limits should be established for a specific project during pre-application discussions.

81. One commenter favored the proposed guidelines for minimum ratios provided that flexibility remained to require mitigation above and beyond these minimums whenever the project-specific circumstances warrant it. They felt that exceptions for application of lower ratios be limited to rare occasions.

The goal of the guidance is to provide a general framework to start from and then allow for project-specific flexibility, which may result in raised or lowered ratios.

82. One commenter asked if stormwater management facilities with open water or wet retention count as compensation creation areas.

There is a long history of not counting stormwater management facilities as wetland compensation as these facilities are generally designed and constructed to address issues created by the project (such as the increase in impervious surface) rather than functions lost as a result of the project. They also require long-term maintenance which can disrupt development of certain functions. On a project-specific basis, they may be used to address certain functions, but other compensation would be required to address the full suite of impacted functions since such facilities generally address minimization of impacts rather than compensation for impacts.

83. One commenter stated that, while the goal of the proposed ratios was to have "no net loss of wetland functions," the high compensation ratios suggested there would be a significant gain.

Peer-reviewed research, as well as research conducted by the National Academy of Sciences' National Research Council and the New England District have found that functional equivalency of compensatory mitigation is considerably less than that of impacted wetlands. It has also been observed, and is included in national guidance, that a margin of safety is often necessary to account for portions of the mitigation site which may not develop wetland functions at all (e.g., a proposed 5-acre mitigation site which only develops 4 acres of wetlands).

84. One commenter felt that the proposed ratios deviated from a functions and values metric for compensation to one based on area.

It is the realization through site evaluations that functional equivalency of New England's compensatory mitigation is considerably less than that of impacted wetlands, which has led the District to recommend increasing mitigation acreages. There is no quantitative functions and values assessment used in New England from which to accurately derive compensatory mitigation requirements.

85. One commenter did not believe that there was any statutory or regulatory basis for use of buffer zones or ratios in wetlands mitigation.

The Corps has had national guidance on these issues since at least 1990. Many Corps districts across the country have had some form of compensatory mitigation ratios in place for a decade or more.

86. One commenter thought that all definitions for mitigation options should be adopted from RGL-02-02, which should be listed in the authorities.

The names used for the different types of compensatory mitigation used in RGL-02-02 are not widely used in New England and in the interests of being clearer to a wider audience, the traditional terms for the different types of compensatory mitigation are used.